

**WHAT IS CLAIMED IS:**

1. A bioprocessing system, comprising:
  - (a) at least one bioreactor;
  - (b) at least two optical chemical sensors associated with each bioreactor, wherein the optical chemical sensors are located within each bioreactor;
  - (c) at least one excitation source corresponding to each optical chemical sensor; and
  - (d) at least one detector.
2. The bioprocessing system of claim 1, wherein each bioreactor is a well housed in a multiple-well plate.
3. The bioprocessing system of claim 2, wherein the optical chemical sensors are sensor patches positioned at the bottom of the well.
4. The bioprocessing system of claim 1, wherein each bioreactor is a cuvette.
5. The bioprocessing system of claim 4, wherein the optical chemical sensors are sensor patches affixed to at least one wall of the cuvette.
6. The bioprocessing system of claim 1, wherein each bioreactor is a culture vial housed within a receptacle of a multi-receptacle bioreactor platform.
7. The bioprocessing system of claim 6, wherein the optical chemical sensors are sensor patches positioned at the bottom of the culture vial.
8. The bioprocessing system of claim 7, wherein the excitation source is a light emitting diode.

9. The bioprocessing system of claim 8, wherein the detector is an integrated spectrometer and diode array.
10. The bioprocessing system of claim 1, further comprising a bioreactor platform containing at least one receptacle to house each bioreactor.
11. The bioprocessing system of claim 10, further comprising a sub-platform, wherein the bioreactor platform is positioned on top of the sub-platform.
12. The bioprocessing system of claim 11, further comprising an agitator, wherein the sub-platform is positioned on top of the agitator.
13. The bioprocessing system of claim 12, further comprising a positioning table, wherein the positioning table is positioned below the agitator such that the positioning table is capable of moving the bioreactor in an x-y or x-y-z plane to a predetermined position.
14. The bioprocessing system of claim 1 or 13, further comprising a data acquisition and control system connected to components of the bioprocessing system via cabling means.